GROUP 54B

SMART WIRING SYSTEM (SWS)

CONTENTS

Main Index
Group TOC

GENERAL INFORMATION

M2541000100424

SWS is a minimal line system which transmits numerous signals using one wiring.

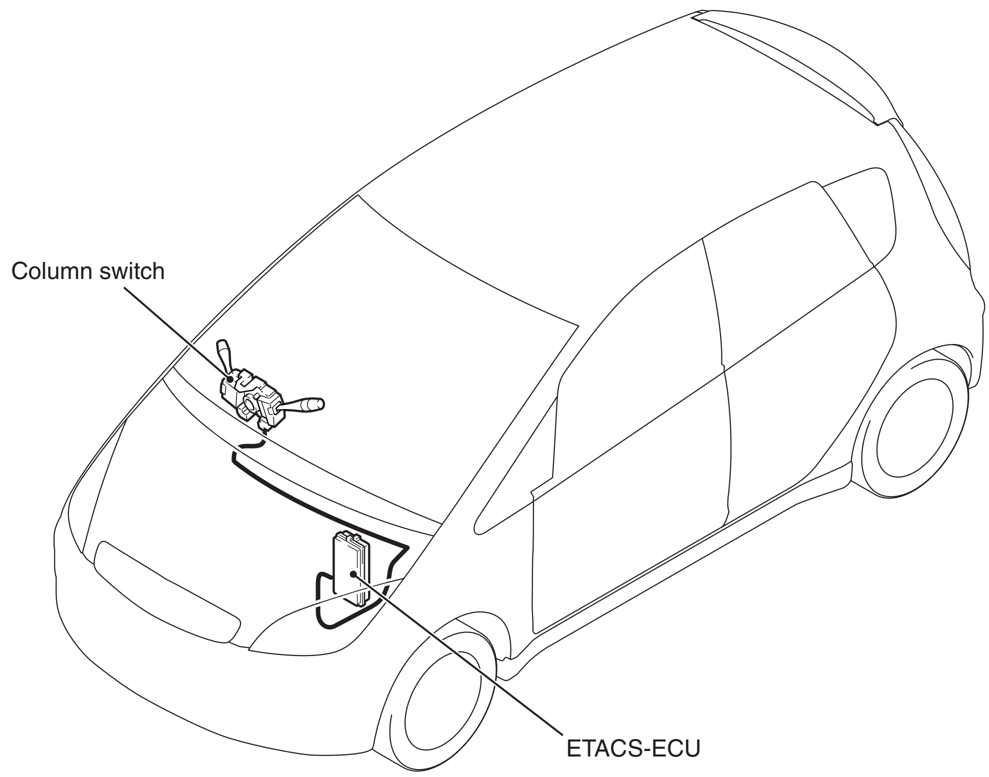
To transmit numerous signals, the ETACS*1-ECU, column switch (incorporating inside the column-ECU) incorporate multi-distribution circuits to carry out communication between control units. ETACS-ECU can receive some input signals through CAN*2 communication, improving the SWS function.

*NOTE: *1: ETACS (Electronic Time and Alarm Control System)*

*NOTE: *2: CAN (Controller Area Network)*

For more information, refer to GROUP 54C P.54C-2.

CONSTRUCTION DIAGRAM

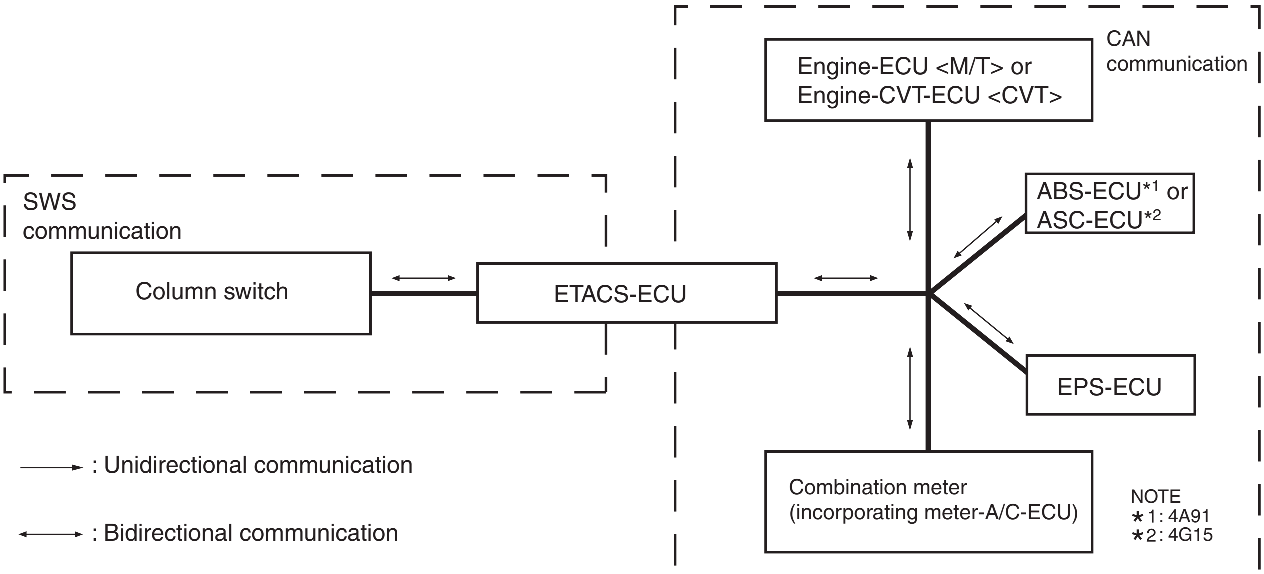


AC401291 AB

Main Index
Group TOC

COMMUNICATION METHOD

M2541001000527



AC206910 AC

The following three types of communication systems are connected as shown for mutual communication.

- SWS communication system in which a dedicated signal line for sending multiplex data connects ETACS-ECU and the column switch (in the column ECU)
- CAN communication system in which twisted-pair cables with high resistance to noise connect ETACS-ECU, engine-ECU <M/T>, engine-CVT-ECU <CVT>, ABS-ECU <4A9>, ASC-ECU <4G1>, EPS-ECU, and the combination meter (in the meter-A/C-ECU)

NOTE: For information on CAN, refer to GROUP 54C *P.54C-2**.*

Main Index
Group TOC

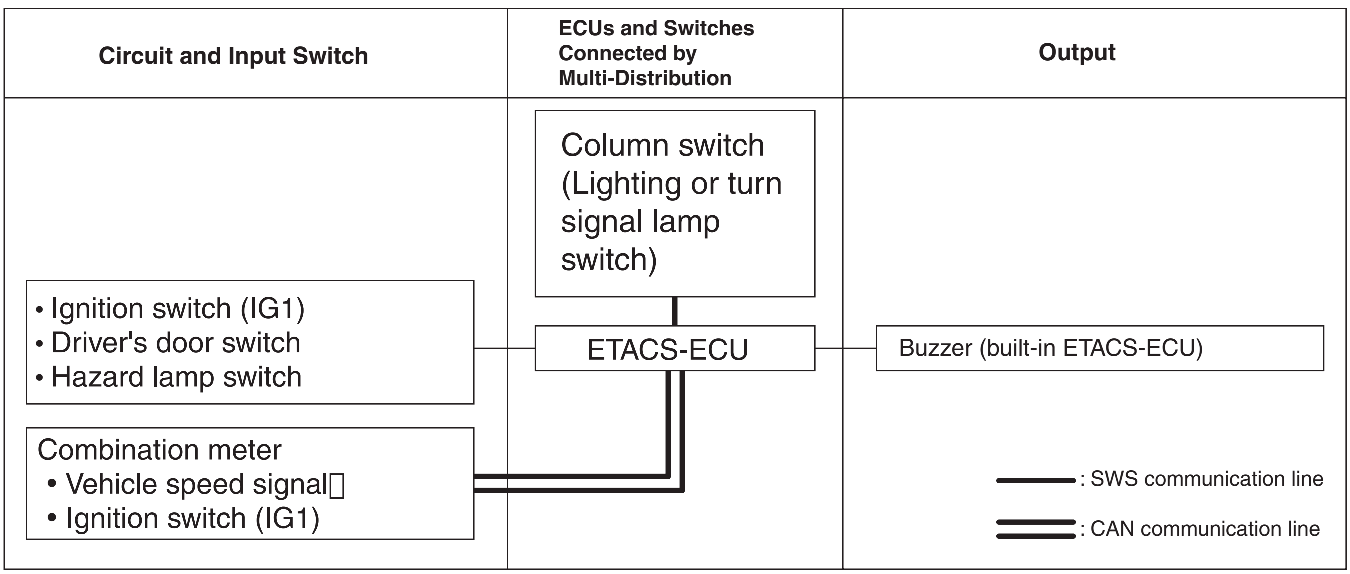
MULTI-DISTRIBUTION INPUT/OUTPUT BY CIRCUIT

M2541002000649

Multi-distribution is employed by the following circuits. The relation of the input switches, sensors, ECUs connected by multi-distribution lines, and outputs are also shown below.

Buzzer

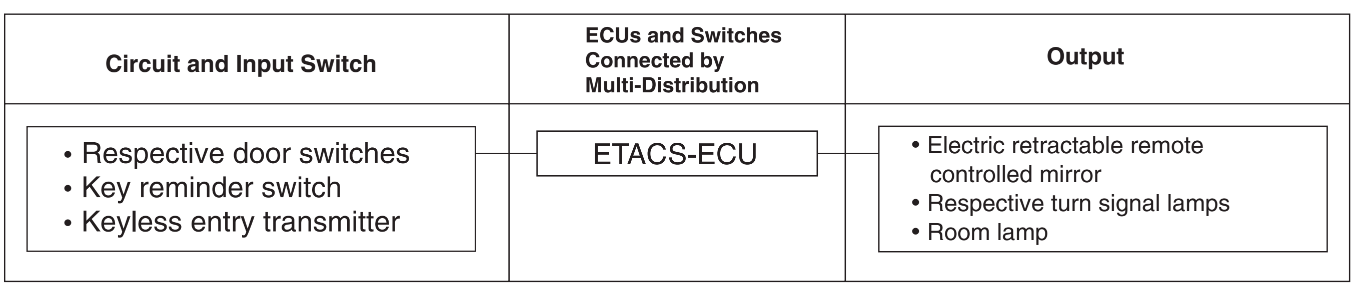
- Lamp reminder buzzer function
- Door-ajar warning buzzer function
- Turn-signal operation sound function



AC601725AB

Keyless entry

- Multi-mode keyless entry system
- Keyless entry hazard answerback function
- Keyless entry room lamp answerback function

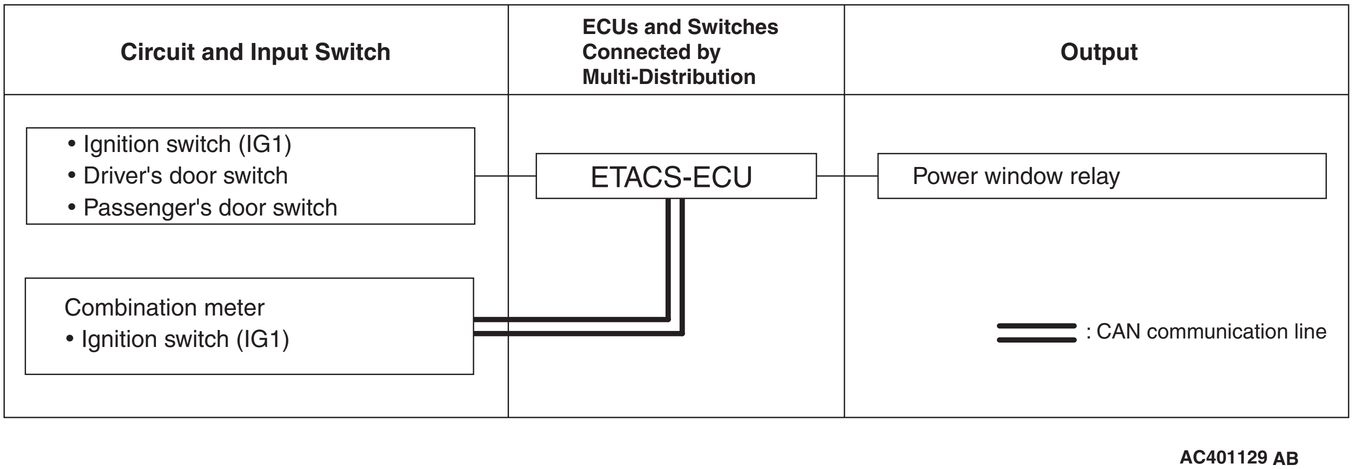


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Main Index
Group TOC

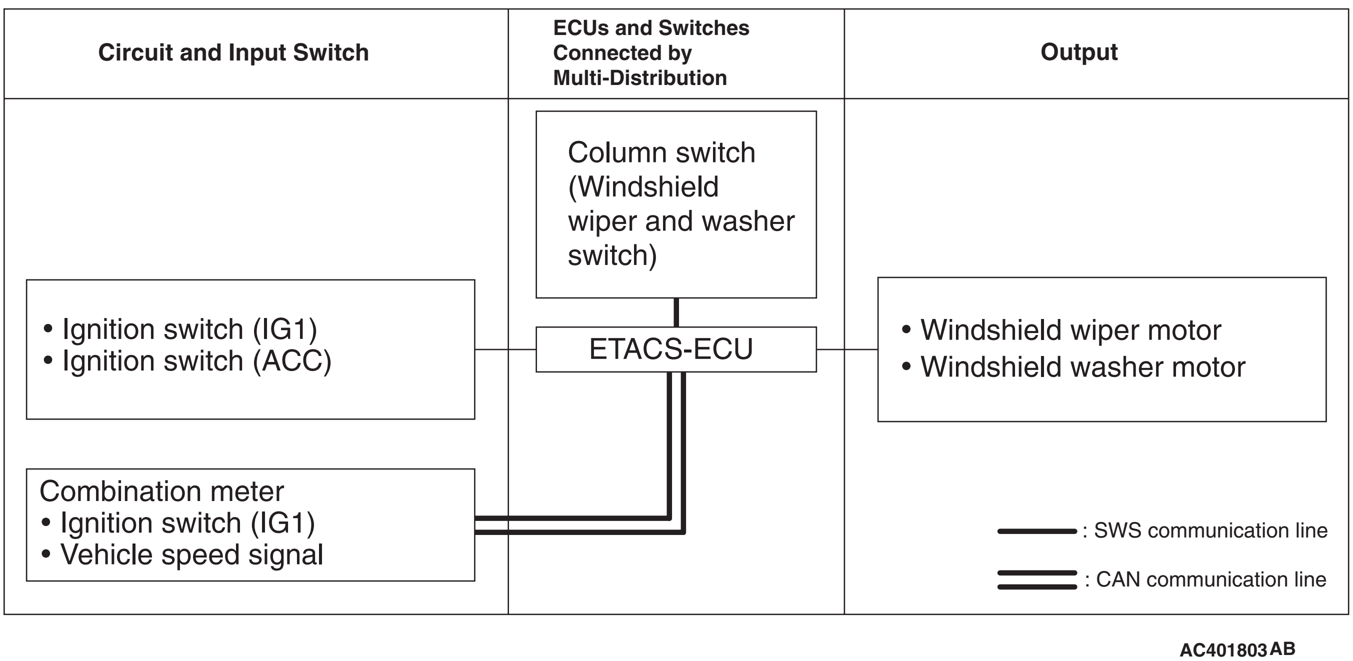
Power window

- Power window timer function



Windshield wiper and washer

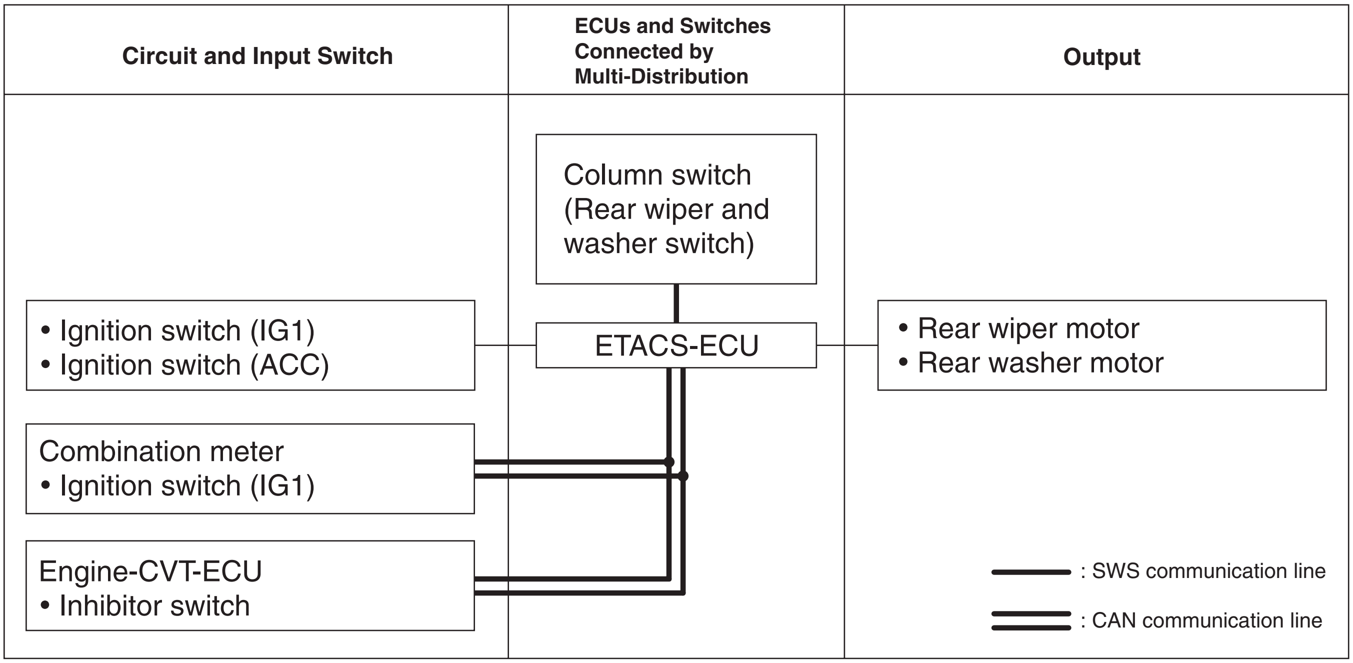
- Windshield mist wiper
- Vehicle speed-dependent variable windshield intermittent wiper
- Windshield low speed wiper
- Windshield high speed wiper
- Windshield washer



Main Index
Group TOC

Rear wiper washer

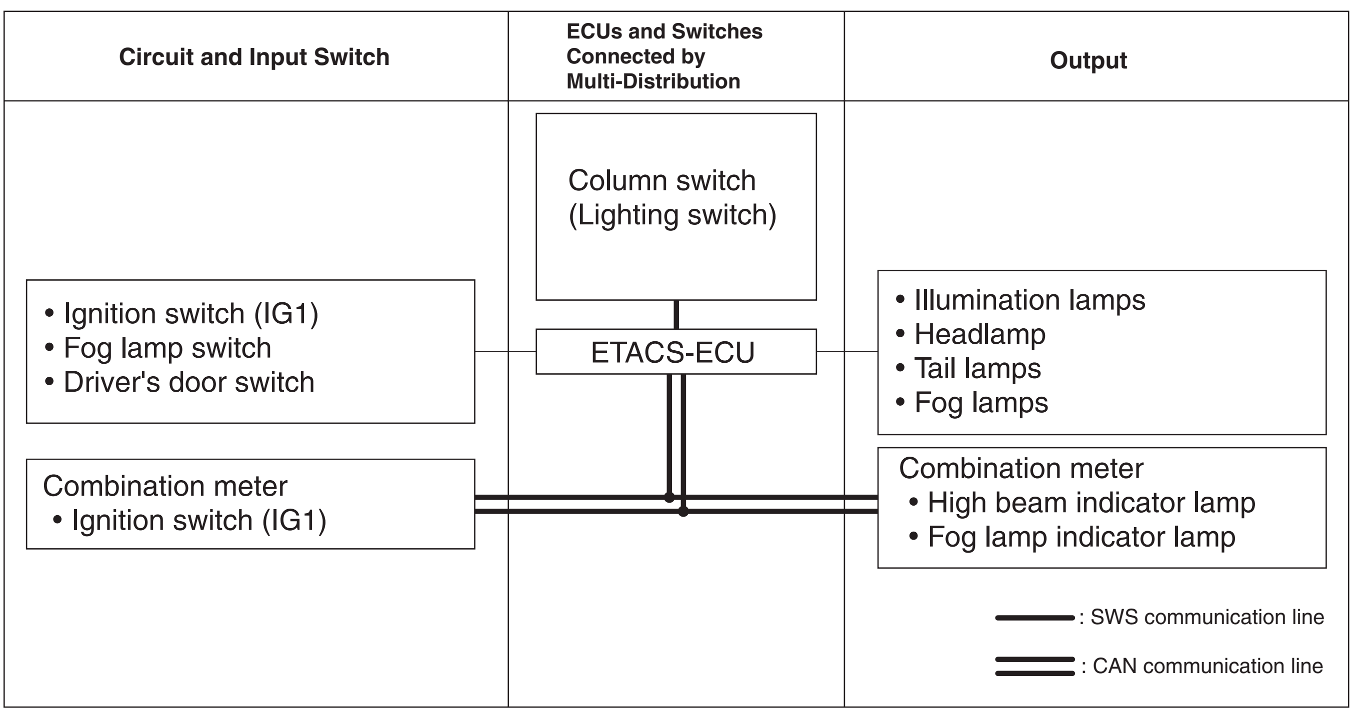
- Rear wiper
- Rear washer



AC207065AB

Lighting

- Headlamp, tail lamp
- Fog lamp

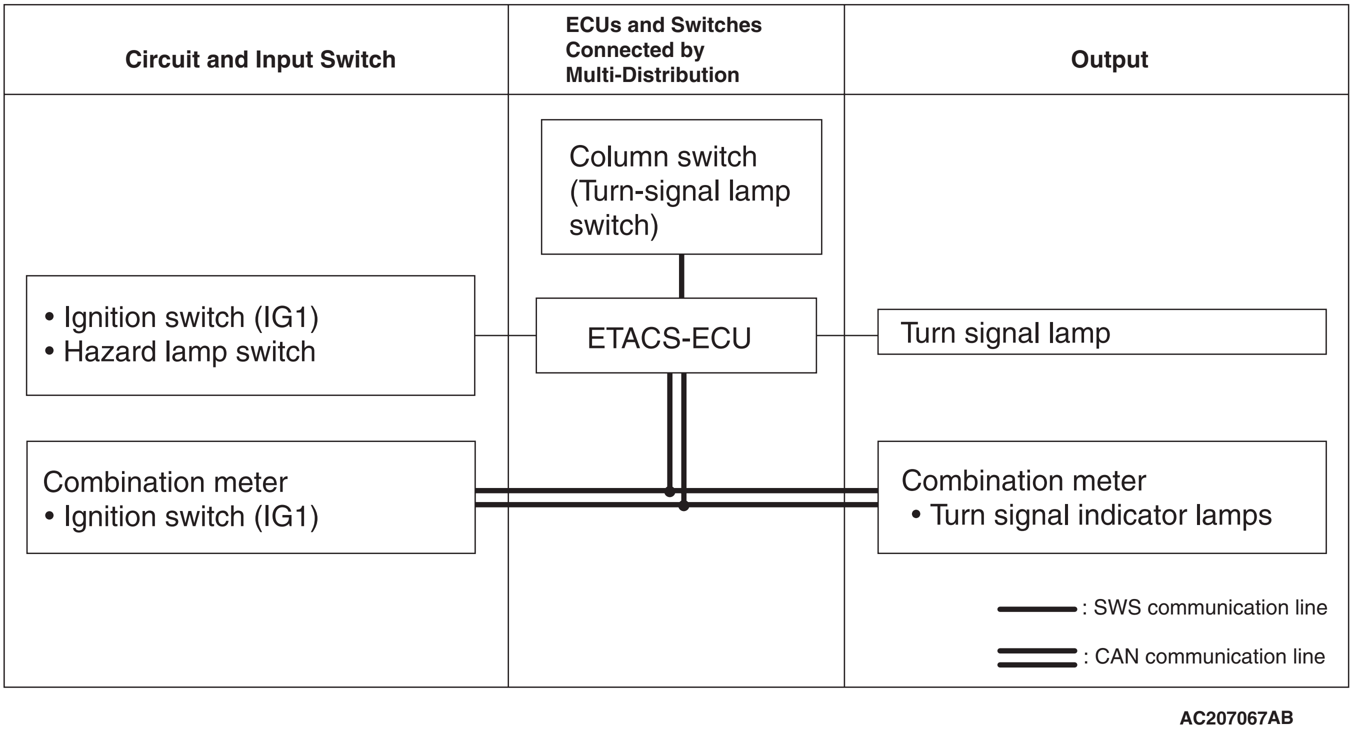


AC401132AC

Main Index
Group TOC

Flasher timer

- Turn signal lamp
- Hazard warning lamp



Main Index
Group TOC

DIAGNOSTIC FUNCTION

M2541003000642

DIAGNOSIS CODE SET

For more information about diagnosis code output, refer to the Workshop Manual.

SWS INPUT SIGNAL CHECK USING M.U.T.-III

When the M.U.T.-III is connected to the diagnosis connector and any of the SWS-linked switches is operated, the PC buzzer sounds to evaluate whether the switch is normal or not.

SWS INPUT SIGNAL CHECK AND ECU CHECK BY USING SWS MONITOR

The switch signals sent by ECUs and the operations of these ECUs can be confirmed by using the SWS monitor and the M.U.T.-III.

INPUT SIGNALS THAT CAN BE CHECKED

<table>
<tr><th colspan="2">Input signal</th><th>Condition for sounding buzzer</th><th>Display on M.U.T.-III (when SWS monitor is used)</th></tr>
<tr><td colspan="2">Ignition switch (ACC)</td><td>Turn from "LOCK" (OFF) to "ACC" position</td><td>from OFF to ON</td></tr>
<tr><td colspan="2">Ignition switch (IG1)</td><td>Turn from "ACC" to "ON" position</td><td>from OFF to ON</td></tr>
<tr><td colspan="2">Key reminder switch</td><td>Remove the ignition key from ignition key cylinder (form inserted position)</td><td>from OFF to ON</td></tr>
<tr><td colspan="2">Hazard lamp switch</td><td rowspan="3">Turn from OFF to ON</td><td rowspan="3">from OFF to ON</td></tr>
<tr><td colspan="2">Fog lamp switch</td></tr>
<tr><td colspan="2">Remote controlled mirror switch (unfolding/folding switch)</td></tr>
<tr><td colspan="2">Speed signal</td><td>When the speed changes from less than 10 km/h to more than 10 km/h</td><td>Displays the vehicle speed</td></tr>
<tr><td colspan="2">Cranking signal</td><td>While the ignition switch is in START position (while cranking the engine)</td><td>–</td></tr>
<tr><td colspan="2">Selector lever P position signal (parking)</td><td>When the selector lever is shifted to the "P" position (Ignition switch: ON or START)</td><td>–</td></tr>
<tr><td colspan="2">Selector lever R position signal (reverse)</td><td>When the selector lever is shifted to the "R" position (Ignition switch: ON or START)</td><td>–</td></tr>
<tr><td colspan="2" rowspan="2">Buzzer triggered by ETACS-ECU*1</td><td>When the following conditions are satisfied
• Ignition switch: LOCK (OFF) position
• Lighting switch: ON
• Driver’s door switch: ON (Driver’s door: OPEN)</td><td>ON</td></tr>
<tr><td>When requirements for sounding each warning buzzer are not satisfied</td><td>OFF</td></tr>
<tr><td rowspan="3">Door switch</td><td>Driver’s door</td><td rowspan="3">When door(s) or tailgate is opened from the closed position</td><td rowspan="3">from OFF to ON</td></tr>
<tr><td>Passenger’s door</td></tr>
<tr><td>Rear door</td></tr>
<tr><td colspan="2">All door switch</td><td>A door is opened when all the doors are closed</td><td>from OFF to ON</td></tr>
</table>

Input signal		Condition for sounding buzzer	Display on M.U.T.-III (when SWS monitor is used)
Driver's door lock actuator switch		Move the door lock knob or driver's door key cylinder from lock position to unlock position or vice versa	from ON to OFF or from OFF to ON
Driver's door unlock actuator switch			from OFF to ON or from ON to OFF
Power window timer duration*1		When the power window timer is activated	Displays the operation duration
Column switch	Tail lamp switch	When the lighting switch is turned from one position to the tail lamp position	from OFF to ON
	Headlamp switch	When the lighting switch is turned from one position to the headlamp position	
	Dimmer switch	When the switch is turned from the OFF to the ON position	
	Passing switch		
	Turn signal lamp LH switch		
	Turn signal lamp RH switch		
Headlamp specification*1		The display alters according to the headlamp specification ("4 BULBS" or "2 BULBS").	4 BULBS
Column switch (wiper switch)	Windshield mist wiper switch	When the switch is turned from OFF to ON	from OFF to ON
	Windshield intermittent wiper switch		
	Windshield low speed wiper switch		
	Windshield high speed wiper switch		
	Windshield washer switch		
	Rear wiper switch		
	Rear washer switch		
	Windshield intermittent wiper volume	When the interval adjusting knob is turned from "FAST" to "SLOW" while the ignition switch is ON.	Displays the windshield intermittent wiper volume voltage
Wiper autostop signal	Front	When activated from the stopped condition	from OFF to ON
	Rear		

Main Index
Group TOC

Input signal	Condition for sounding buzzer	Display on M.U.T.-III (when SWS monitor is used)
With windshield intermittent wiper control*1	The display alters according to the presence of the equipment ("EQUIP" or "NONE").	EQUIP
Specification switching terminal*1	The display alters according to the transmission type ("A/T" or "M/T").	M/T or A/T
Diagnosis connector*1	Diagnosis control line: Earthed	ON
	Diagnosis control line: Not earthed	OFF

NOTE:

- *– shown in the table indicates that the check item for the input of the corresponding signal is not present in M.U.T.-III.*
- **1Checking the input signal by the sound of the buzzer is not possible. Input signal must be checked on the M.U.T.-III display.*
- **2: Buzzer sound during the check is triggered by the input signal from the ignition switch. It is not to check the presence of the power window switch acceptance permission signal.*
- **3: Buzzer sound during the check is triggered by the input signal from the keyless entry transmitter. It is not to check the presence of the multimode keyless entry input signal.*

Main Index
Group TOC

ECU FUNCTIONS AND CONTROLS IN THE SWS

M2541004000805

Following functions are controlled by ECUs of SWS.

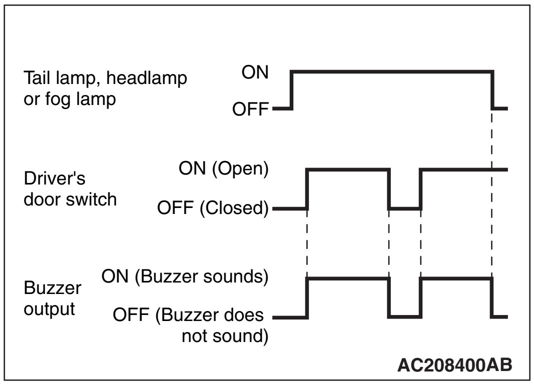
Function		Control ECU	Function description
Buzzer	Lamp reminder buzzer function	ETACS-ECU, Column switch	P.54B-12
	Door-ajar warning buzzer function	ETACS-ECU	P.54B-12
	Turn-signal lamp operation sound function	ETACS-ECU, Column switch	P.54B-13
Central door locking system	Central door locking control function	ETACS-ECU	P.54B-13
	Shift "P" position linked door unlock function <CVT>		P.54B-13
Power window	Power window timer function	ETACS-ECU	P.54B-14
Keyless entry system	Multi-mode keyless entry system	ETACS-ECU	P.54B-14
	Keyless entry hazard answerback function	ETACS-ECU	P.54B-14
	Keyless entry room lamp answerback function	ETACS-ECU	P.54B-15
Windshield wiper and washer	Intermittent control <Vehicle speed-dependent variable type>	ETACS-ECU, Column switch	P.54B-16
	Mist wiper control		P.54B-16
	Low speed wiper and high speed wiper control		P.54B-17
	Windshield wiper linked with washer function		P.54B-18
Rear wiper and washer	Rear wiper control	ETACS-ECU, Column switch	P.54B-19
	Rear wiper linked with washer function		P.54B-20
Electric retractable remote controlled mirror	Electric retractable remote controlled mirror timer function	ETACS-ECU	P.54B-20
	Automatic unfolding function		P.54B-21
Flasher timer function	Turn-signal lamp	ETACS-ECU, Column switch	P.54B-21
	Hazard lamp		P.54B-22
	Turn-signal lamp indicator		P.54B-22
Headlamp	High-beam indicator	ETACS-ECU, Column switch	P.54B-22
Fog lamp	Fog lamp control	ETACS-ECU, Column switch	P.54B-22
	Fog lamp indicator		P.54B-22

Main Index
Group TOC

Function		Control ECU	Function description
Interior lamp	Interior lamp dimmer control function	ETACS-ECU	P.54B-23
	Ignition key cylinder illumination lamp control function		P.54B-24
	Door-ajar indicator		P.54B-24
Customize function		ETACS-ECU	Refer to P.54B-25.

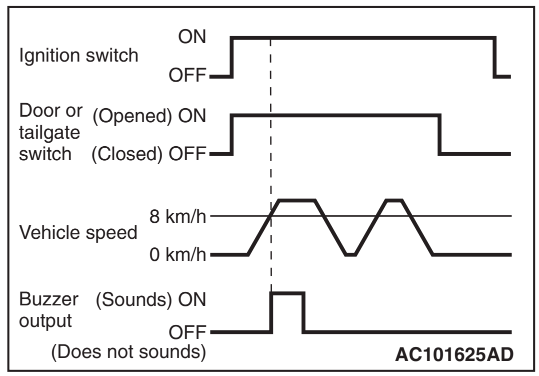
BUZZER

LAMP REMINDER BUZZER FUNCTION



When the ignition key is removed and then the driver's door is opened with turning ON the tail lamp, fog lamp or head lamp, the buzzer sounds continuously to alert the driver that the lamp is still ON. However, if the tail lamp or the headlamp is turned off by the headlamp automatic-shutdown function, the buzzer does not sound.

DOOR-AJAR WARNING BUZZER FUNCTION (THE INITIAL CONDITION: WITH FUNCTION)

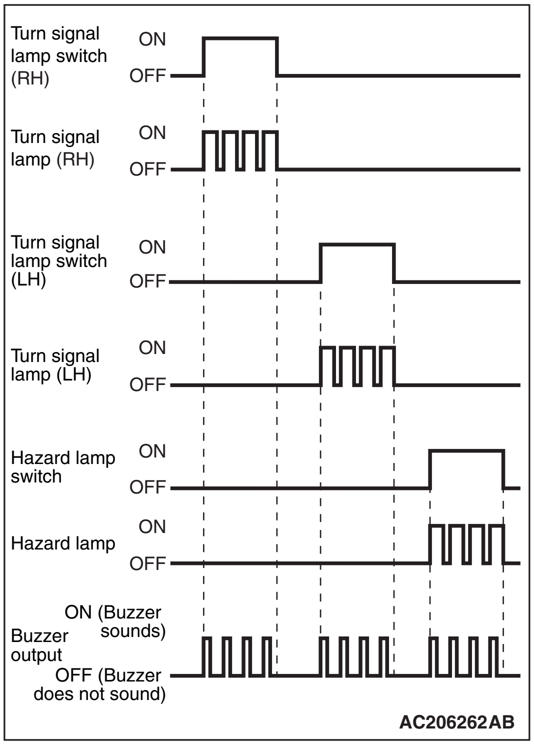


If the vehicle speed sent from the combination meter via CAN communication exceeds 8 km/h when a door is open for one second or more, the ETACS-ECU makes the door ajar indicator lamp flash 16 times and activates the buzzer (beeping 16 times) to inform the driver that a door is open.

NOTE: Availability of the door-ajar alarm function can be selected by the customize function (Refer to P.54B-25).

Main Index
Group TOC

TURN-SIGNAL LAMP OPERATION SOUND FUNCTION (THE INITIAL CONDITION: WITHOUT FUNCTION)

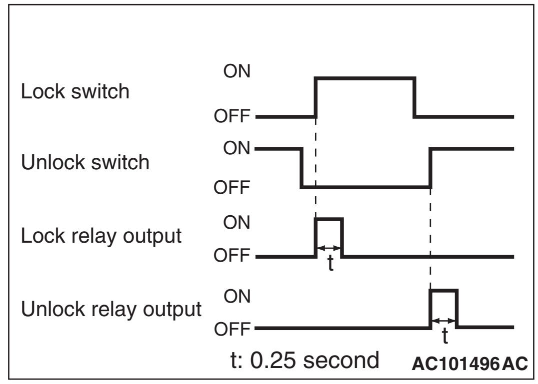


ETACS-ECU buzzer sounds simultaneously with the blinks of the turn-signal lamp and the hazard lamp.

NOTE: Availability of the turn-signal lamp operation tone function can be selected by the customize function (Refer to *P.54B-25**).*

CENTRAL DOOR LOCKING SYSTEM

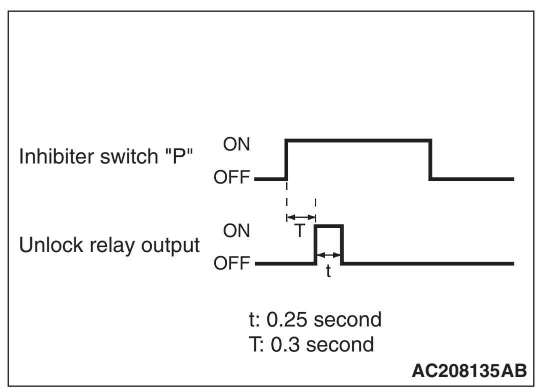
CENTRAL DOOR LOCKING CONTROL FUNCTION



When the front doors are locked (when the lock switch turns ON after turning OFF the unlock switch in the driver's door lock actuator), ETACS-ECU turns ON the lock relay output for 0.25 second, and locks all doors (including the tailgate).

When the front doors is unlocked (when the unlock switch turns ON after turning OFF the lock switch on the driver's door lock actuator), ETACS-ECU turns ON the unlock relay output for 0.25 second, and unlocks all doors (including the tailgate).

SHIFT "P" POSITION LINKED DOOR UNLOCK FUNCTION (THE INITIAL CONDITION: WITH FUNCTION) <CVT>



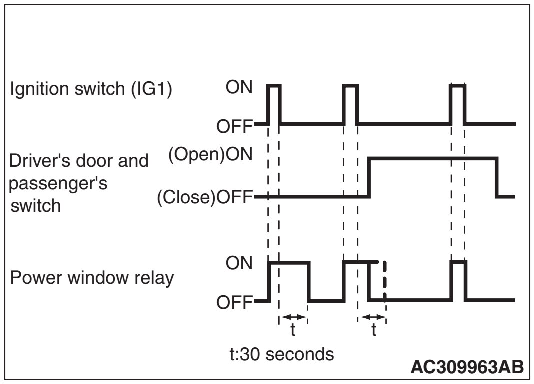
When the selector lever is shifted to "P" position (parking) (inhibitor switch "P" is ON) with the ignition switch turned to the ON position, the ETACS-ECU turns on the unlock relay output for 0.25 second (0.3 second after the selector lever operation) and unlocks all the doors (including the tailgate).

NOTE: Using a customisation function, this function can be enabled or disabled. For more information about the customisation function, refer to *P.54B-25**.*

Main Index
Group TOC

POWER WINDOW

POWER WINDOW TIMER FUNCTION



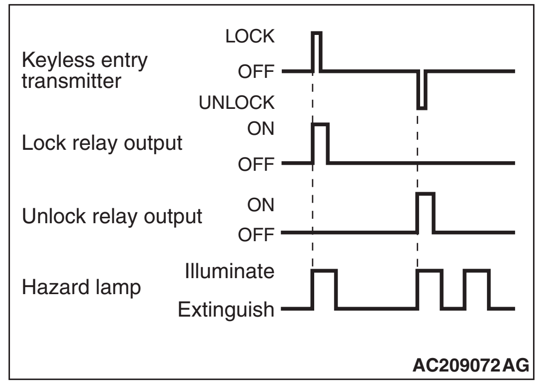
When the power window relay is turned ON with the ignition switch ON, the power window relay is kept ON for 30 seconds even after the ignition switch is turned OFF, enabling the door window to be opened and closed with the power window switch.
If the driver's or the front passenger door is opened during timer operation, the power window relay is turned OFF at the same time.

KEYLESS ENTRY SYSTEM

MULTI-MODE KEYLESS ENTRY SYSTEM

The door mirrors can be operated by the keyless entry transmitter operation.
For the operation, refer to Group 42 – Body – Keyless entry system P.42-13.

KEYLESS ENTRY HAZARD ANSWERBACK FUNCTION (INITIAL SETTING: LOCK, FLASH ONCE, UNLOCK, FLASH TWICE)

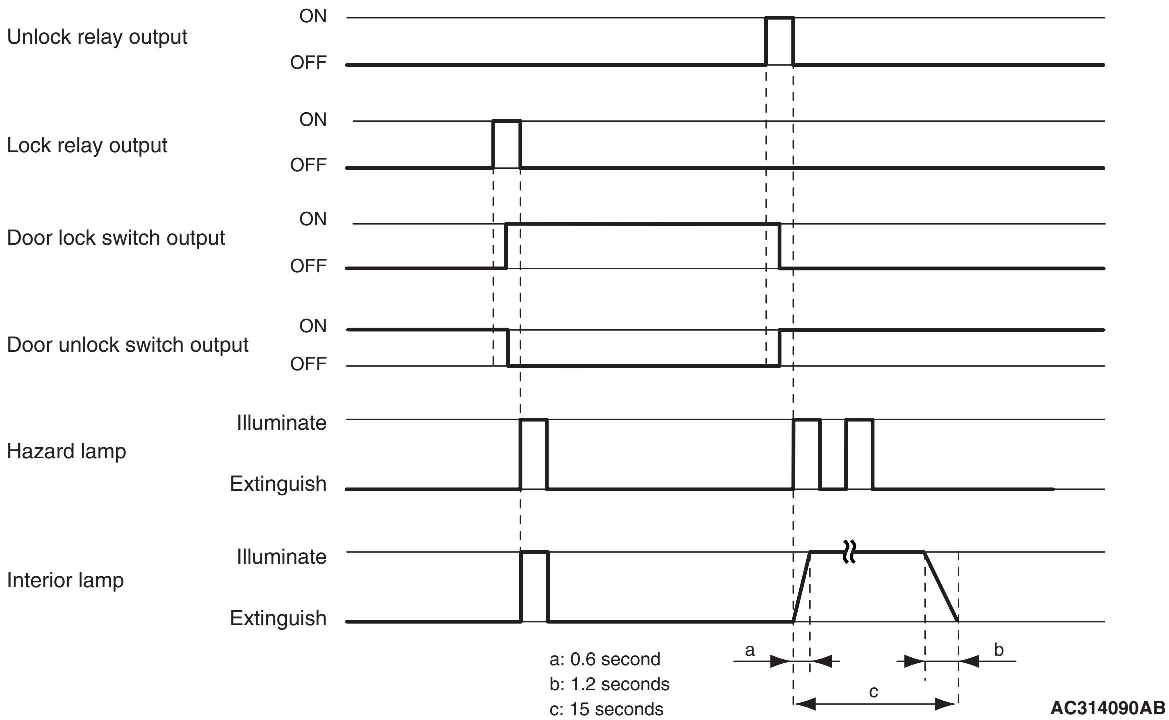


The hazard answer back function that allows checking the lock/unlock state of the door easily even in the daytime is installed. When the lock signal from the keyless entry transmitter is received into ETACS-ECU, all doors (including the tailgate) are LOCK, and the turn signal lamp blinks once. When the unlock signal is received, all doors (including the tailgate) are UNLOCK, and the turn-signal lamp blinks twice.

NOTE: The answer back blink time can be adjusted by the customise function (Refer to P.54B-25).

Main Index
Group TOC

KEYLESS ENTRY ROOM LAMP ANSWERBACK FUNCTION (INITIAL SETTING: LOCK FLASH ONCE, UNLOCK ILLUMINATES FOR 15 SECONDS)

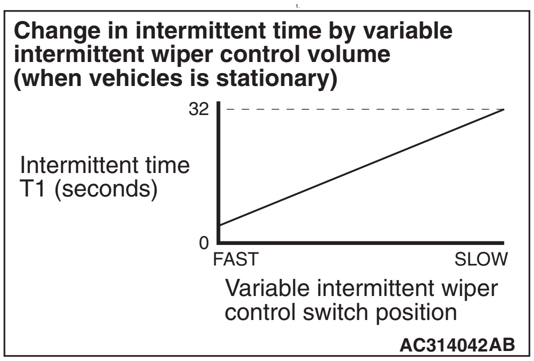


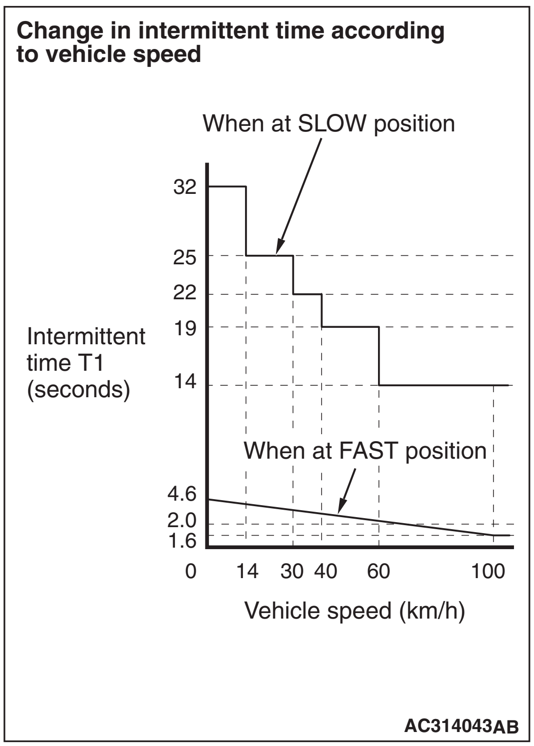
When the ETACS-ECU receives the lock signal from the keyless entry transmitter, all doors (including tailgate) is locked and the interior lamp flashes once in synchronization with the hazard lamp operation. When the ETACS-ECU receives the unlock signal, all doors (including tailgate) is unlocked. The interior lamp fades in, keeps on, and fades out in 15 seconds after the door unlock relay is operated. (15 seconds including fading period)

NOTE: The answerback blink time can be adjusted by the customize function. (Refer to P.54B-25).

Main Index
Group TOC

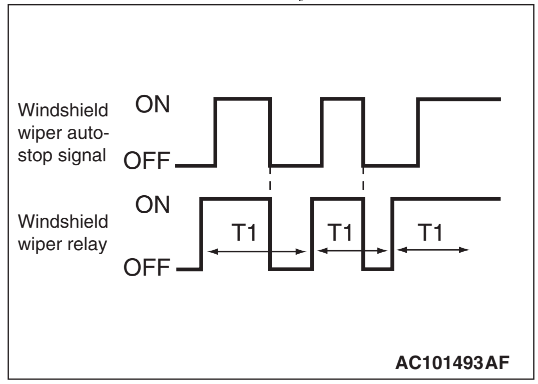
WINDSHIELD WIPER AND WASHER INTERMITTENT CONTROL <VEHICLE SPEED-DEPENDENT VARIABLE TYPE> (THE INITIAL CONDITION: WITH FUNCTION)





The ETACS-ECU calculates the windshield intermittent wiper interval T1 from the windshield intermittent wiper volume and vehicle speed signal (sent from the combination meter to the ETACS-ECU via CAN communication).

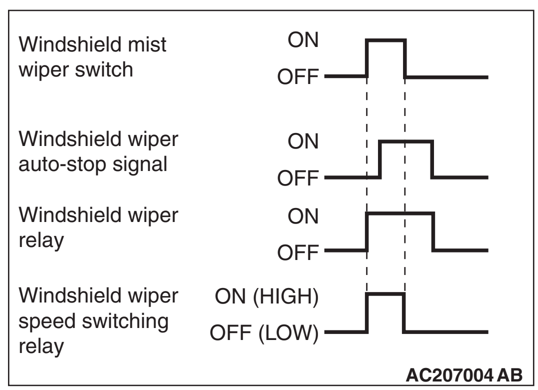
NOTE: The vehicle speed-sensitive function can be adjusted by the customise function (Refer to *P.54B-25**).*



When ETACS-ECU receives the windshield intermittent wiper switch ON signal from the column switch while the ignition switch is in the ACC or ON position, it turns the windshield wiper relay ON to operate the windshield wiper at low speed.

3. When the windshield wiper comes to the stop position, the windshield wiper auto stop signal turns OFF. Then the windshield wiper relay will turn OFF, and the windshield wiper stops operating.
4. When the intermittent time T1 has elapsed after the windshield wiper relay was turned OFF, ETACS-ECU turns ON the windshield wiper relay again and repeats the above procedure.

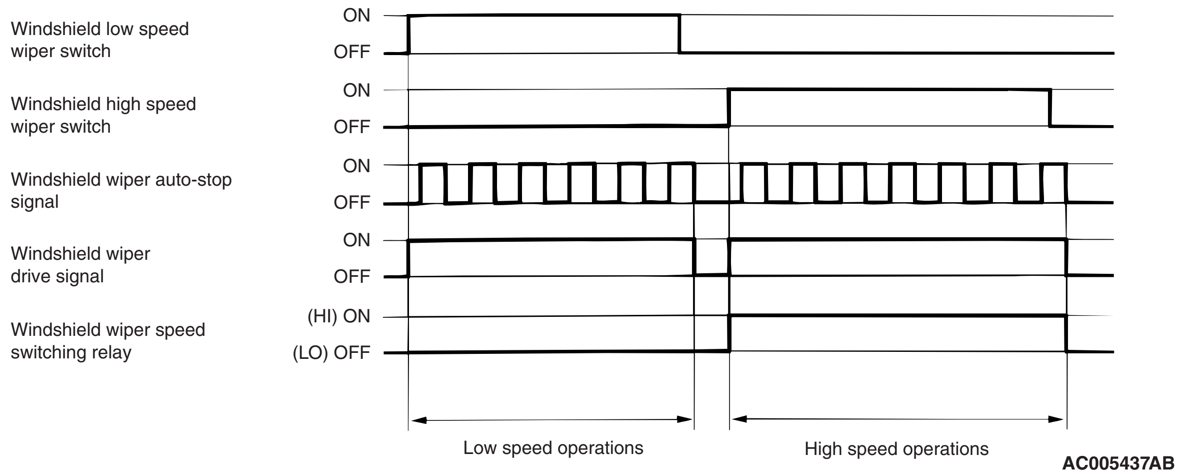
MIST WIPER CONTROL



When the windshield mist wiper switch of the column switch is turned ON with the ignition switch in the ACC or ON position, ETACS-ECU turns ON the windshield wiper drive signal. At the same time, the wiper speed switch relay turns to ON (HIGH). When the windshield mist wiper switch is ON, the windshield wiper operates at the high speed.

Main Index
Group TOC

LOW SPEED WIPER AND HIGH SPEED WIPER CONTROL

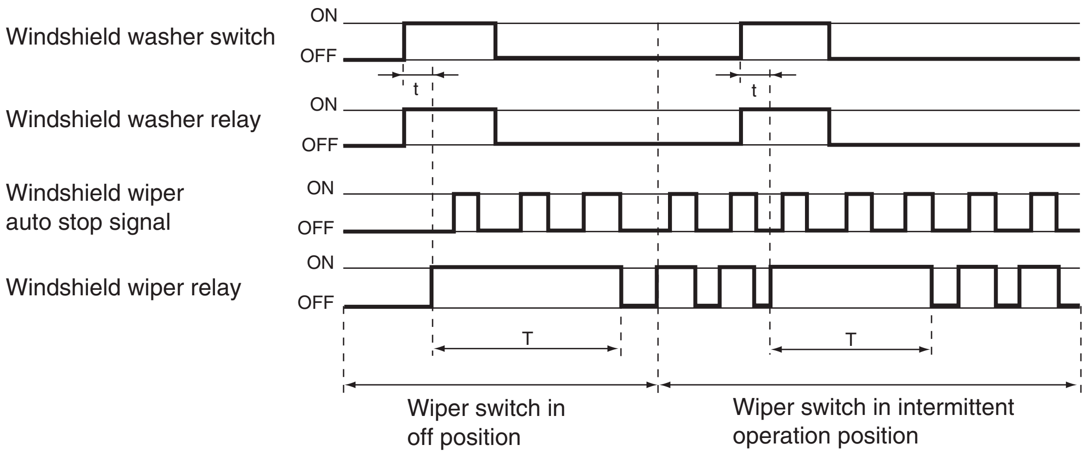


When the windshield low speed wiper switch of the column switch is turned ON while the ignition switch is ACC or ON, the column switch turns ON the windshield wiper drive signal. Also, the wiper speed switching relay turns to OFF (LO), and the windshield wiper operates at the low speed.

When the windshield high speed wiper switch is turned ON, the windshield wiper drive signal turns ON. Also, the wiper speed switching relay turns ON (HI), and the windshield wiper operates at the high speed.

Main Index
Group TOC

WINDSHIELD WIPER LINKED WITH WASHER FUNCTION (INITIAL CONDITION: WITH THE WINDSHIELD WIPER LINKED WITH WASHER FUNCTION)



t: 0.2 or 0.3 second
T: Intermittent wiper intermittent time

Wiper switch	OFF position			Intermittent operation position				Low-speed or high-speed operation position
Washer switch ON time (t)	0.3 second or less	0.3 to 0.5 second	0.5 second or more	0.2 seconds or less	0.2 to 0.4 second	0.4 to 0.6 second	0.6 second or more	–
T	0 second	2 seconds	3 seconds	0 second	1 second	2 seconds	3 seconds	3 seconds

When the windshield washer switch in the column switch is turned ON with the ignition switch in the ACC or ON position, the ETACS-ECU turns ON the windshield washer relay.
When the windshield washer switch is kept ON for 0.3 seconds, the windshield wiper drive signal (the wiper drive signal output time varies depending on the conditions. For details, refer to the tables) is turned ON, and the windshield wiper is operated at high speed. Three seconds after turning OFF the windshield washer switch, the windshield wiper turns OFF.
Even when the windshield washer switch is turned ON while the windshield wiper is operating intermittently, the intermittent action is kept after the linked operation is finished.

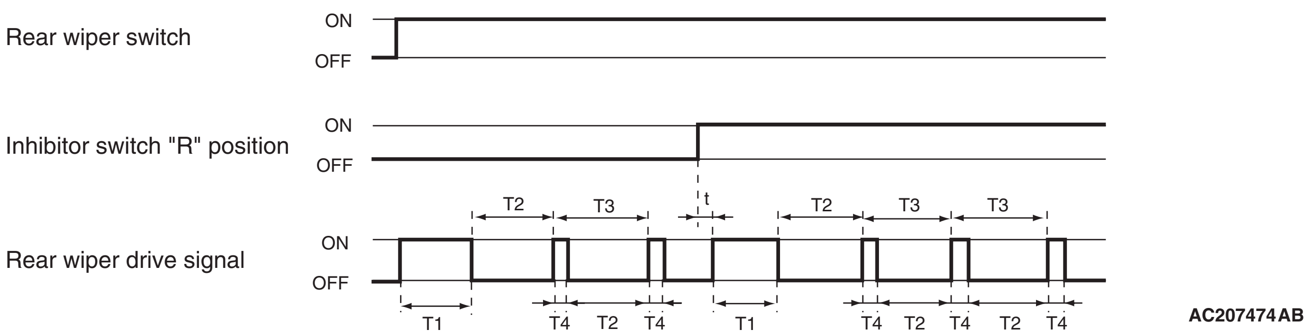
If the ignition switch is set to the ACC position while the windshield washer switch is being turned ON, the windshield washer relay becomes ON, but the windshield wiper does not start the linked operation.
When the windshield washer switch is turned OFF and then ON again, the windshield wiper makes the linked operation.

NOTE:
- *Using a customisation function, the driver can enable or disable the windshield wiper linked with washer function. For more information about the customisation feature, refer to P.54B-25.*
- *When the windshield wiper linked with washer function is disabled by the customisation feature, the windshield wiper does not operate in synchronization with the windshield washer. However, the windshield washer can be activated. It is useful to melt down the ices of the frozen windshield.*

Main Index
Group TOC

REAR WIPER AND WASHER

REAR WIPER CONTROL [THE INITIAL CONDITION: 8 SECONDS (WITHOUT SUCCESSIVE OPERATIONS)]



t: 1.0 second
T1: 3.0 seconds
T2: 7.4 seconds
T3: 8.0 seconds
T4: 0.6 second

1. When the rear wiper switch on the column switch is turned ON with the ignition switch at the ACC or ON position, ETACS-ECU turns ON the rear wiper drive signal for 3 seconds (approximately 2 operations) and performs the intermittent action at 8-second intervals.

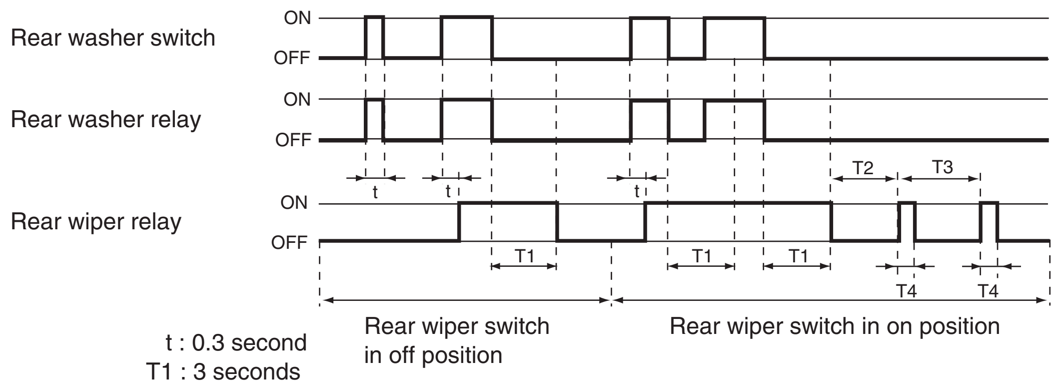
When the selector lever is moved to R position during the rear wiper operation, the inhibitor switch R position turns ON one second after that, ETACS-ECU sends the rear wiper drive signal for 3 seconds (approximately 2 operations), and operates the intermittent action in 8 seconds interval. <CVT>

2. By the special operation of the rear wiper switch on the column switch (successive 2-time operations), the rear wiper operates continuously regardless of the set intermittent time.

NOTE: The rear wiper intermittent time can be adjusted or cancelled for continuous operation by the customise function (Refer to P.54B-25).

Main Index
Group TOC

REAR WIPER LINKED WITH WASHER FUNCTION (THE INITIAL CONDITION: WITH FUNCTION)



t : 0.3 second
T1 : 3 seconds
T2 : 7.4 seconds
T3 : 8 seconds
T4 : 0.6 second

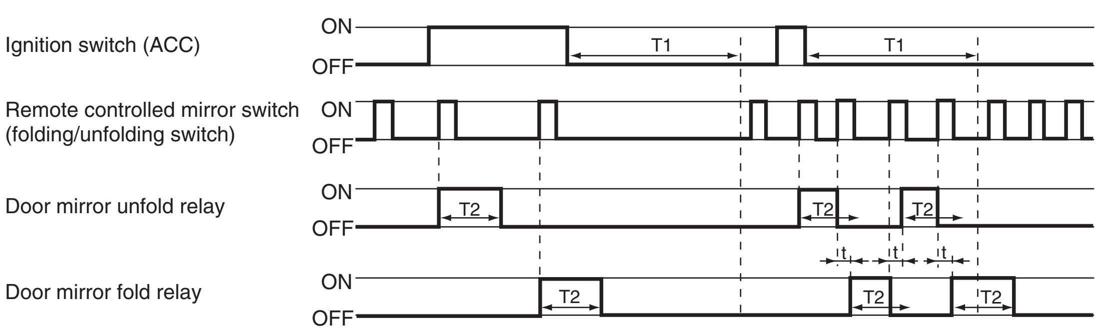
AC207003AB

- When the rear washer switch on the column switch is turned ON with the ignition switch ACC or ON, ETACS-ECU turns ON the rear washer relay. When the rear washer switch signal from the column switch remains ON for 0.3 seconds or more, ETACS-ECU turns ON the rear wiper relay to operate the rear wiper continuously. When the rear washer switch is turned OFF, the ETACS-ECU turns OFF the rear wiper relay 3 seconds later. Then the rear wiper stops at the auto stop position.
- Even turning ON the rear washer switch during rear wiper operation causes the rear wiper relay to switch the operation to continuous operation, and then the rear wiper resumes intermittent operation at intervals of eight seconds, 7.4 seconds after the completion of the continuous operation.

NOTE: Using a customisation function, a driver can enable or disable the rear wiper linked with washer function. For more information about the customisation feature, refer to P.54B-25.

ELECTRIC RETRACTABLE REMOTE CONTROLLED MIRROR

ELECTRIC RETRACTABLE REMOTE CONTROLLED MIRROR TIMER FUNCTION



t: 0.1 second
T1: 30 seconds
T2: 16 seconds

AC309810AC

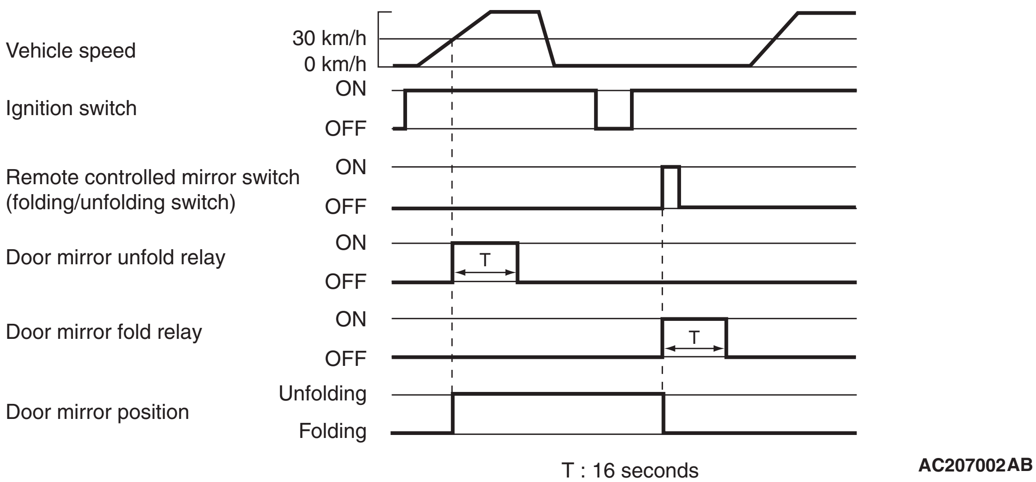
When the unfolding/folding switch on the fold switch remote controlled mirror switch is turned ON with the ignition switch at the ACC or ON position, the door mirror unfold relay or fold relay is turned on for 16 seconds to unfold or fold the door mirrors. Even after the ignition switch is turned OFF, the door mirrors can operate for 30 seconds.

If the unfolding/folding switch on the remote controlled mirror switch is turned ON while one of the door mirror unfold relay or door mirror fold relay is in operation, the other relay for the opposite motion is turned ON after 0.1 second.

Main Index
Group TOC

NOTE: Whether the door mirrors are at the unfolding or folding position is determined according to the memory of the door mirror fold relay operated previously. For this reason, if the door mirrors are manually retracted, they may not move when the unfolding/folding switch on the fold switch remote controlled mirror switch is pressed next time.

AUTOMATIC UNFOLDING FUNCTION



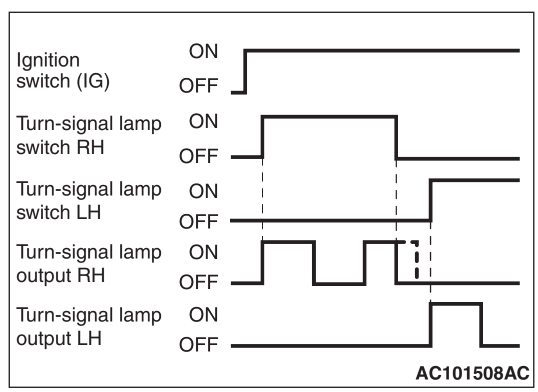
Vehicle speed-dependent automatic unfolding function

When the vehicle speed reaches 30 km/h, with the ignition switch ON and the mirrors retracted, ETACS-ECU turns on the retraction mirror relay (unfolding) for 16 seconds to return the door mirrors. However, the door mirrors do not return to their normal positions automatically if the ignition switch is turned from OFF to ON, and then the unfolding/folding switch on the remote controlled mirror switch is operated.

NOTE: Whether the door mirrors are at the unfolding or folding position is determined according to the memory of the retraction mirror relay operated previously. For this reason, if the mirrors are manually retracted, they may not move when the unfolding/folding switch is pressed next time.

FLASHER TIMER FUNCTION

TURN-SIGNAL LAMP (INITIAL SETTING: TURN SIGNAL LAMP CAN BE OPERATED WHEN THE IGNITION SWITCH IS IN THE ON POSITION)



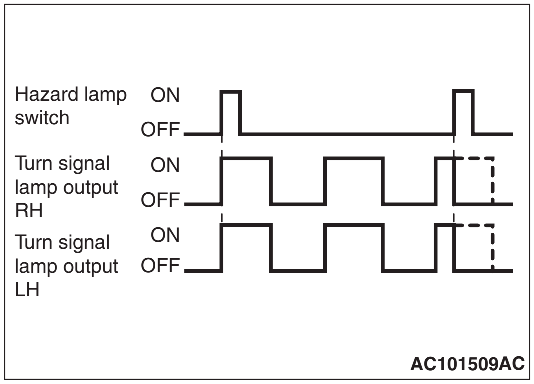
When the turn-signal lamp switch is ON (LH or RH) with the ignition switch is ON, the turn-signal lamp output (flash signal) is turned ON.

If the lamp bulb of the front or rear turn-signal lamp has burned out, the flashing speed becomes faster to alert the driver that the lamp bulb has burned out.

NOTE: Using a customisation function, this function becomes available even when the ignition switch is in the ACC position. For more information about the customisation feature, refer to *P.54B-25**.*

Main Index
Group TOC

HAZARD LAMP



When the hazard lamp switch input signal turning from OFF to ON is detected, the flashing states turns over by the signal (When the hazard lamp is not blinking, it blinks. If it is blinking, it turns off).

NOTE:

1. *The push-return switch is adopted for the hazard lamp switch.*
2. *Even if the lamp bulb has burned out, the flashing speed of the hazard lamp is not changed.*

TURN-SIGNAL LAMP INDICATOR

The ETACS-ECU sends the turn signal lamp indicator ON signal to the combination meter through CAN communication in synchronization with the turn signal lamp operation. The combination meter receives the transmitted signal and turns ON or OFF the turn-signal lamp indicator.

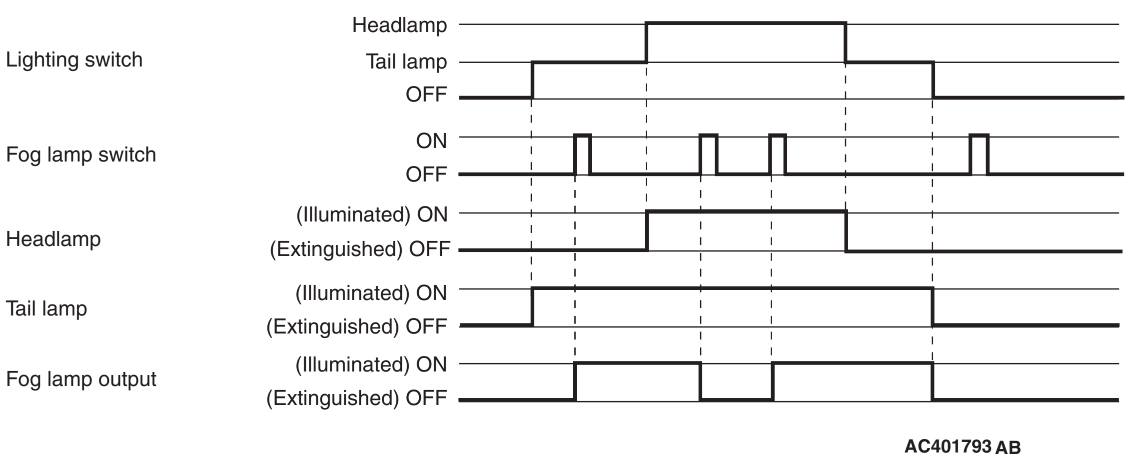
HEADLAMP

HIGH-BEAM INDICATOR

The ETACS-ECU sends the high beam indicator ON signal to the combination meter through CAN communication in synchronization with the high beam headlamp operation. The combination meter receives the transmitted signal and turns ON or OFF the high beam indicator.

FOG LAMP

FOG LAMP CONTROL



When the fog lamp switch is turned to ON with the tail lamp or the headlamp lit (the tail lamp switch or the headlamp switch is ON), the fog lamp relay turns ON, and the fog lamps turn on.
If the tail lamp or the headlamp is turned off with the lighting switch OFF while the fog lamps lit, the fog lamps turn off the same time to prevent unattended operation.

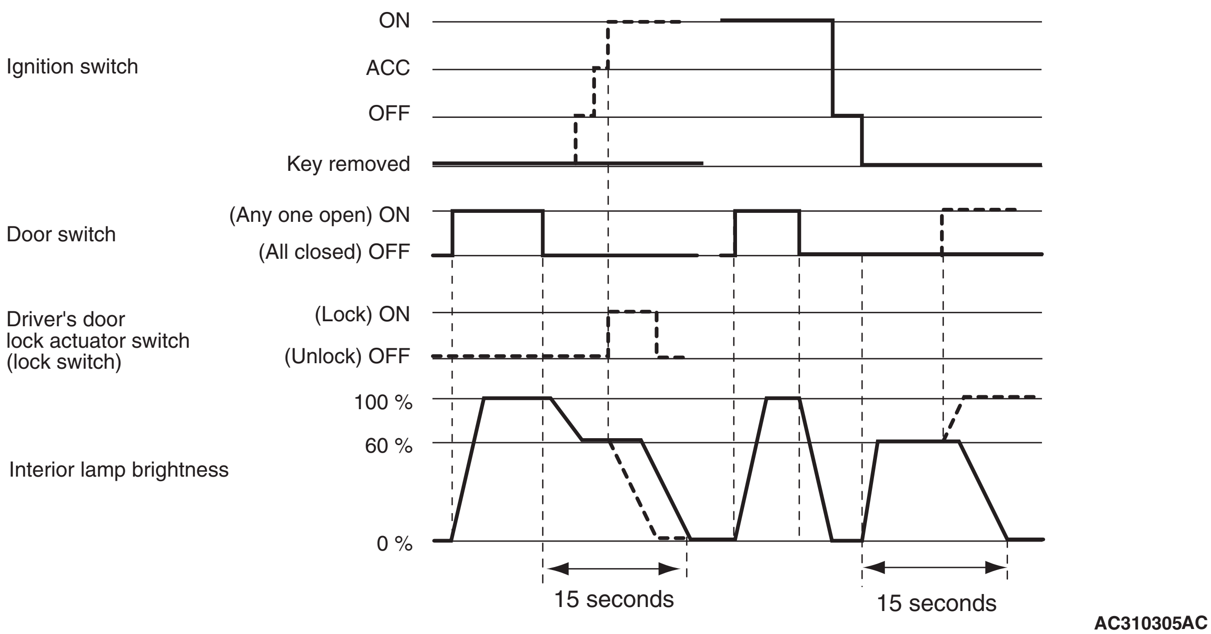
FOG LAMP INDICATOR

The ETACS-ECU sends the fog lamp indicator ON signal to the combination meter through CAN communication in synchronization with the fog lamp operation. The combination meter receives the transmitted signal and turns ON or OFF the fog lamp indicator.

Main Index
Group TOC

INTERIOR LAMP

INTERIOR LAMP DIMMER CONTROL FUNCTION (THE INITIAL CONDITION: 15 SECONDS)



When the interior lamp switch is on the door position, ETACS-ECU controls the interior lamp lamps as follows.

1. When the ignition switch is OFF:

By opening any door or tailgate, the lamp turns ON (100%), and dims (60%) when the door or tailgate is closed, then and turns off after 15 seconds.

However, when the ignition switch is turned ON or the door lock is operated, the lamps turn off at that time.

2. When the ignition switch is ON:

By opening any door or tailgate, the lamp (100%) turns ON and OFF when the door or tail gate is closed.

3. When all doors and the tailgate are closed, and the ignition key is removed:

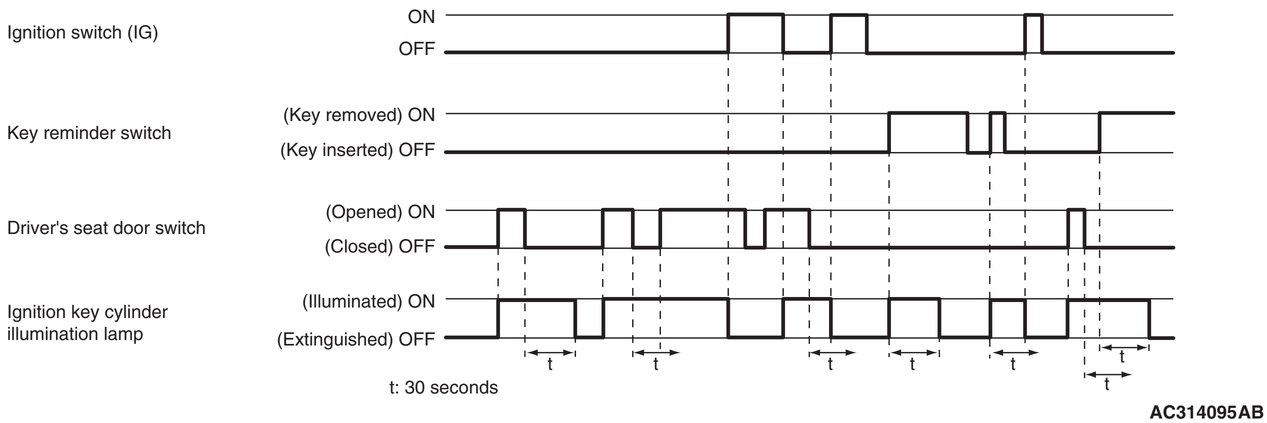
By removing the ignition key with all doors and the tailgate closed, the lamp turns ON 60%, and turns off after 15 seconds.

By inserting the ignition key again or operating the door lock with the lamp lit, the lamps turns off.

NOTE: For the vehicles with the keyless entry system, the delayed lamp-off time and the operation times of the keyless entry interior lamp answer back can be changed by the customise function (Refer to *P.54B-25**).*

Main Index
Group TOC

IGNITION KEY CYLINDER ILLUMINATION LAMP CONTROL FUNCTION



The ETACS-ECU controls the ignition key cylinder illumination lamp and foot lamp as described below.

1. The ignition key cylinder illumination lamp and for 30 seconds when the driver's door is opened/closed with the ignition switch OFF.
2. Also when the ignition key is removed from the ignition key cylinder, the lamp illuminates for 30 seconds.
3. When the ignition key cylinder illumination lamp is operating with the doors closed, it goes out if the ignition switch is turned ON.

DOOR-AJAR INDICATOR

The ETACS-ECU sends the open/close status of each door to the combination meter through CAN communication. The combination meter receives the transmitted signal and turns ON and OFF the door-ajar indicator. The door-ajar indicator flashes when the door-ajar warning function is activated while the door-ajar indicator is ON (For more information about the door-ajar warning function, refer to).

Main Index
Group TOC

CUSTOMISE FUNCTION

M2541006000243

Using M.U.T.-III adjusts the following function. The programmed information is held even when the battery is disconnected.

- Vehicle speed-dependent wiper function

With the windshield wiper switch in the intermittent position, the intermittent duration changes depending on the intermittent adjusting knob position and the vehicle speed.

- The selector "P" position-linked central door unlocking function <CVT>

When the selector lever is shifted to the "P" position, all the doors unlock.

- Turn-signal lamp operation sound function

Synchronized with the hazard lamp and the turn signal lamp, the buzzer sounds.

- Dimmer interior lamp control duration

When the door is closed with the ignition switch LOCK (OFF), the interior lamp is turned OFF automatically in the specified time.

- Timer lock time after executing the keyless entry unlock

If any door including a tailgate is not opened after being unlocked with the keyless transmitter, doors are locked automatically within the specified time.

- Door-ajar warning function

Driving with any door, including a tailgate, not properly closed sounds the buzzer to let the driver know the door-ajar state.

- Rear wiper intermittent duration

When the rear wiper switch is turned ON, the rear wiper operates in the intermittent action. When the rear wiper switch is turned from OFF to ON two cycles, the rear wiper makes continuous operation regardless of the intermittent operation duration setting.

- Wiper linked with washer function

When this function is active, the windshield wiper operates if the washer switch is turned ON.

- Hazard answer back function of the keyless entry system

When lock/unlock is operated with the keyless entry transmitter, the horn sounds so that the driver can recognize the lock/unlock status of the vehicle even if the driver is away from it.

- Initialising all functions (Returning to the initial condition)

All adjusting functions are returned to the settings at the time of factory shipment.

Item No.	Items shown on M.U.T.-III screen	Item	Adjustment items shown on M.U.T.-III screen	Adjusting contents
4	SPEED SEN WIP	Vehicle speed-dependent wiper function	W.FUNCTION	With function (Initial setting)
			W/O FUNCTION	Without function
9	KEYLESS(HAZD)	Hazard answer back function of the keyless entry system	LOCK/UNLOCK	With function for lock/unlock (the initial condition)
			LOCKED	With function only for lock
			UNLOCKED	Without function only for unlock
			W/O FUNCTION	Without function
14	P UNLOCK ACT.	Door unlock function linked with "P" position shift for centre door lock system	W.FUNCTION	With function
			W/O FUNCTION	Without function (the initial condition)
15	T/SIG.BUZZER	Turn-signal lamp operation sound function	W.FUNCTION	With function
			W/O FUNCTION	Without function (the initial condition)

Main Index
Group TOC

Item No.	Items shown on M.U.T.-III screen	Item	Adjustment items shown on M.U.T.-III screen	Adjusting contents
16	RM LMP TN OFF	Dimmer interior lamp control duration	60s	60 seconds
			30s	30 seconds
			15s	15 seconds (the initial condition)
			7.5s	7.5 seconds
			W/O FUNCTION	0 second (no delay action)
24	KEYLES LOCK T	Timer lock time after executing the keyless entry unlock	30s	30 seconds (the initial condition)
			60s	1 minute
			120s	2 minutes
			180s	3 minutes
26	DOOR WARN BUZ	Door-ajar warning function	W.FUNCTION	With function (Initial setting)
			W/O FUNCTION	Without function
28	R.INT WIPER T	Rear wiper intermittent duration	8s	8 seconds: Without continuous operation (Initial setting)
			4s(W SUCSSON)	4 seconds: With continuous operation
			8s(W SUCSSON)	8 seconds: With continuous operation
			16s(W SUCSSON)	16 seconds: With continuous operation
			CONTIN ACTION	Continuous operation (without the intermittence)
37	WIP SYCR WASH	Wiper linked with washer function	W.FUNCTION	With function (Initial setting)
			W/O FUNCTION	Without function
38	KEYLES HAZARD	Customise function for changing the number of the keyless hazard warning lamp answerback flashing	LOCK1,UNLOCK2	LOCK: Flash once, UNLOCK: Flash twice (Initial setting) Whether the lamps flash or not is determined by the keyless hazard warning lamp answerback customisation function.
			LOCK2,UNLOCK1	LOCK: Flash twice, UNLOCK: Flash once Whether the lamps flash or not is determined by the keyless hazard warning lamp answerback customisation function.
39	TURN-SIGNAL	Turn signal lamp operation condition adjustment function	IG-ON	Turn signal lamp can be operated when the ignition switch is turned ON (Initial setting).
			IG-ACC	Turn signal lamp can be operated when the ignition switch 1 is in ACC or ON position.